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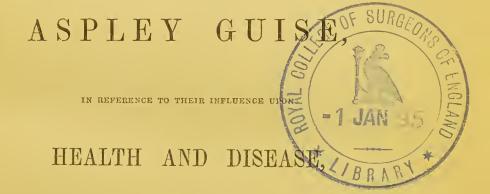
Rest-Compts

OBSERVATIONS

ON THE

TOPOGRAPHY AND CLIMATE

() I



AS COMPARED WITH CELEBRATED ENGLISH AND FOREIGN LOCALITIES.

BY

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TO

COLONEL C. HERVEY SMITH,

ASPLEY HOUSE,

THIS TRIFLE, THE PRODUCTION OF A FEW LEISURE HOURS,

IS INSCRIBED,

AS A TOKEN OF THE GRATEFUL REMEMBRANCE AND ESTEEM OF

THE AUTHOR.

SUNBURY HILL, ASPLEY, October 1856.



THE CLIMATE OF ASPLEY GUISE,

ETC.

Seven years ago, ill health and its consequences induced me to relinquish a good connexion in Herefordshire, on the borders of Wales, in order to secure a residence upon a dry soil, and in a more southern part of the kingdom. While casting about for my future home, an advertisement of a small practice in the village of Aspley in Bedfordshire decided my choice, and thus a seeming accident made me first acquainted with this favoured spot.

I had always pictured Bedfordshire to myself as a bleak damp county; and having but little knowledge of its geological strata, I was pleased to find that the village of Aspley was upon a deep though narrow line of the green-sand formation; a circular range of hills, of moderate elevation, extending from Tring in Hertfordshire to the neighbourhood of Biggleswade.

I shall never forget the sensations I experienced in walking up the (then) sandy lane leading to the village. Here, thought I, is the spot I have long sighed for, and forthwith resolved, if no insurmountable obstacles

presented themselves, to pitch my tent, and set about industriously seeking that greatest of earthly blessings—Health.

Having determined to continue my professional pursuits, I accepted, in addition to the practice above mentioned, the medical charge of a large Union District. This opened to me a wide field, in which to observe the general condition of the health of the inhabitants, and the class and character of the prevailing diseases.

It would be idle to pretend that Aspley, or any other place, enjoys an immunity from the several physical scourges which afflict mankind. Even in this place, though acute and inflammatory diseases are very rare, those of the chronic type supply, in some measure, their place: scrofula, bilious affections, etc., (due in some degree to the sedentary habits of the poorer population, formerly employed in lacemaking), and now and then consumption, claim their victims. I say now and then; for experience and unquestionable evidence have satisfied me that the average mortality is lower here than in almost any other place with which I am actually acquainted.

In connexion with consumptive cases in particular, one fact is very remarkable,—that persons afflicted with *positive* and *incurable* disease, live much longer here than in almost any other part of England, save our much sheltered southern coasts

I may here mention consumptive cases I have been in attendance upon, where there has been positive abscess in the lungs for periods varying from five to eight years, with all the ordinary attendant symptoms of general consumption; night perspirations, diarrhæa, etc. Let me also remark, that though these invalids occasionally suffer, yet they enjoy life comparatively, and though looking forward hopefully to a better existence, still life has its endearments left.

Another fact was in the course of a little time forced upon my attention, that several persons coming from distant places, labouring under bronchial and other affections of the lungs and windpipe, exhibited marked improvement in their health after a short residence in this neighbourhood. Some who have been patients of my own, quickly discontinued medicines, which, attention to diet, and the free enjoyment of a healthy atmosphere and more equal temperature, had rendered unnecessary.

The annual average mortality of England being about 23 per thousand, it is interesting to find that, for many years, the mortality of this parish has scarcely reached the average of a healthy rural district (which is 17 per thousand), even including two unhealthy, undrained distant hamlets—Water Hall and part of Woburn Sands—inhabited by a peculiar population. But if we speak of the *village* of Aspley and

its immediate locality, we should, I believe, find that the mortality reaches only about 14 or 15 per thousand. Compare this with an unhealthy rural district; Cople, for instance, where the mortality a few years ago amounted to 23 per thousand, or Salford, adjoining Water Hall, where, for seven years, the average was 32 per thousand (as high as the mortality of an unhealthy town). This excessive mortality was due to preventable causes, which in the first case were removed by the humane liberality of His Grace the Duke of Bedford, and the locality rendered thereby as healthy as ordinary rural districts.* To return to our subject. The air of Aspley generally, and particularly of the elevated parts, is very dry, and therefore suitable to nervous affections and relaxed states of the system. The comparative absence of neuralgic complaints seems to favour this view, and the benefit derived by those, who, coming from other places, have suffered from such affections, tends also to the same conclusion. On the other hand, the comparative absence of rheumatic and gouty affections and acute inflammations, furnishes negative evidence of the dryness of the air, equability of temperature, and purity of the water, inasmuch as the reverse of these circumstances are a fertile cause of such complaints.

^{*} Dr. Barker's interesting work on the Mortality of Bedford.

The next fact of interest in the sanitary condition of Aspley is its exemption from endemic or localised disease. As far as I can learn, typhus fever and other kindred affections have never arisen here spontaneously; the few cases which have occurred have been imported, or caused by some neglected impurity, and from this I infer that our general dryness of soil, free air, and good water, are the greatest safeguards against such melancholy visitations.

The general position of the village is sheltered by hills of moderate elevation; but, as far as my own experience goes, its healthful tendencies appear not to be due to that cause, inasmuch as my observations, made in three different parts, vary but little in the range of temperature, although more moisture is evident in the lower valley-like portions. The air is particularly dry and bracing, and upon the elevated parts exposed to the west, is compared by many to a sea breeze. The general temperature is but slightly below that of the Undercliff of the Isle of Wight. Sufficient evidence to those who may think the place oppressively hot in summer, is, that the average temperature of July and August is 61° of Fahrenheit only. The greatest range of temperature is in these months, and the smallest in November and December, which may be considered of no little importance to the consumptive invalid, who is generally as much

tried during the latter part of the year as in the spring months.

The principal feature in this locality is the dry sandy character of the soil; and the leading property of sand being its great power of absorption of both heat and moisture, its effect is to render the surface of the ground sufficiently dry (even immediately after heavy rain) for exercise, and also in hot weather to cool the atmosphere, by absorbing the superfluous heat; from hence we get radiation of the latter during the night, diminishing cold, and thus an equilibrium is approached, and the small variation of the atmosphere partly accounted for.

This sand stratum in the higher parts of the village has been ascertained to be nearly 100 feet deep. Underneath this we get springs of the finest water. It is bright and sparkling, nearly free from earthy impregnation, and, in addition, soft—an invaluble property when found in spring water. The absence of a river may be thought the only failure in the beauty of our scenery; but in regard to health that absence is, no doubt, a benefit, as nothing could contribute so much to dampness of atmosphere. It is perfectly well understood by medical men that no single cause tends more to the development and continuation of neuralgia in its various forms and complications, than damp, or excess of moisture.

Supposing the air to be damp, it would naturally be more prevalent during the night. To test this influence, I slept for the whole winter with my bed room window open, and can honestly say my health was never better: a sufficient answer to the popular error of excluding the "night air".

Reflecting upon the above facts, I commenced a series of meteorological observations, in the hope that I might, by their aid, arrive at some explanation of the peculiar course of certain diseases in this locality. Extending my experiments over five years, the principal conclusion I arrived at was, the exceedingly equable character of the climate, or non-variability of atmospheric temperature. The following, Table I, compiled with the aid of Sir James Clark's admirable work on Climate, proves that in this particular Aspley equals, and in some respects (hereafter to be pointed out), exceeds, even the Isle of Wight, Hastings, Montpelier, Torquay, etc.

The smallness of the average daily range of temperature during the year, or of the mean annual variation of day and night, appears to be exceeded by only one known locality—Pau in the south of France; and thus places Aspley in a prominent position as a residence for diseases benefited by equability of climate, and the absence of intense heat in summer, as illustrated by Table II.

TABLE I.

MEAN ANNUAL DAILY RANGE OF TEMPERATURE.

Mean Annual Range.	7.10	∞:	6	8.51	9.18	10.1	11.2	12.	$12.\frac{8}{10}$		15.
Dec.	^	11 03 00	9	9	$10\frac{1}{2}$	1	8	6	∞	1	10
Nov.	∞	11/2	1~	9	$10\frac{3}{4}$	∞	6.	10	ဘ	00	7
Oct.	50	52	00	1	$10\frac{1}{2}$	10	12	12	103	11	15
Sept.	7.0	93	11	∞	Q & 4	$10\frac{3}{4}$	<u></u>	13	$12\frac{1}{2}$	#-	18
July. August	70	10	13	Ţ	10	111	12	17	17	17	18
July.	00	$9\frac{1}{2}$	12	10	Q 814	$10\frac{1}{2}$	<u> </u>	15	$18\frac{1}{4}$	16	19
June.	10	6	13	∞	S 2014	12	12	15	$19\frac{1}{2}$	16	20
May.	10	6	14	10	0	3	141	14	14	16	19
April.	00	$\frac{8}{2}$	I	Ţ	03	13.4 4	133	14	141	15	19
March.	6	1	6	6	0	103	$10\frac{1}{2}$	14	$10\frac{1}{2}$	133	14
Feb.	6	91	1	6	$10\frac{1}{8}$	$8\frac{1}{2}$	$0^{\frac{1}{2}}$	6	S 201	10	12
Jan.	7	63	9	∞	$9\frac{1}{8}$	1 814	∞ - ∞	∞	00	7	6
Annual Tempera- ture.	56.1	47.1	49.3	$59.\frac{6}{10}$	64.9	$56.\frac{3}{10}$	$52.\frac{1}{10}$	57.6	$50.\frac{4}{10}$	49.3	48.8
LOCALITY.	Pau	Aspley	Bute	Nice	Madeira	Undercliffe	Torquay	Montpelier	Hastings	Geneva	11 London, environs.
No.	_	67	ಣ	4	50	9	^	∞	6	10	11

TABLE II.

MEAN TEMPERATURE OF EACH MONTH FOR THE YEAR.

		[0	lo	.10	Night & Day.	Daily Mean.	.[0	-	
Annual Mean.	$56.\frac{1}{8}$	$59.\frac{6}{10}$	$64.\frac{9}{10}$	$56.\frac{3}{10}$	47.3	$51.\frac{1}{9}$	$50.\frac{4}{10}$	49.3	
Dec.	47	482	$61\frac{1}{2}$	10 T	$40^{\frac{1}{4}}$	$42\frac{1}{4}$	441	403	451
Nov.	$52\frac{1}{4}$	う 50 4	4 9	$48\frac{1}{4}$	30 <u>8</u>	42	453	43	483
Oct.	$62\frac{1}{2}$	613	$66\frac{3}{4}$	522	481	$51\frac{1}{2}$	$51\frac{1}{4}$	49	553
Sept.	7391	$69\frac{1}{4}$	711	$59\frac{1}{2}$	30	583	$59\frac{1}{2}$	533	593
July. August	177	741	713	$62\frac{1}{4}$	$\frac{200}{2}$	$65\frac{1}{2}$	$61\frac{1}{2}$	573	69 4 4
July.	77.	731	02	$60\frac{1}{4}$	613	$65\frac{1}{2}$	63	$59\frac{1}{4}$	$69\frac{1}{2}$
Jun e.	701	69	$66\frac{3}{4}$	$59\frac{1}{2}$	59	$63\frac{1}{2}$	$60\frac{3}{4}$	57	$61\frac{1}{4}$
May.	693	63	$69\frac{1}{2}$	541	481	53.1 4	$53\frac{1}{4}$	$52\frac{1}{2}$	57
April.	$56\frac{1}{4}$	25	62	$49\frac{1}{2}$	44	483	$49\frac{1}{4}$	453	50
March. April.	512	$51\frac{1}{2}$	613	44	30 <u>3</u>	1001	394	411	45 CH
Feb.	\$#	64	$60^{\frac{1}{4}}$	$40\frac{1}{2}$	$39\frac{1}{2}$	441	$35\frac{1}{4}$	$39\frac{1}{2}$	443
Jan.	44	454	593	413	$36\frac{1}{2}$	$40\frac{1}{2}$	$39\frac{1}{10}$	381	411
LOCALITY.	Pau	Nice	Madeira	Undercliffe	Aspley	Ditto	Hastings	Bute	Jersey

Having briefly considered the peculiarities of Aspley in regard to diseases, situation, soil, etc., it will be desirable to review, generally, the conditions most favourable to health, and as influenced by climate, more particularly. Upon this subject, Sir James Clark says,—"And here I would comment upon the error of expecting too much from mere change of climate. The air or climate is regarded by the patient as possessing some specific quality, by virtue of which it directly cures his disease. This erroneous view of the matter not unfrequently proves the bane of the invalid, by leading him, in the fulness of his confidence in climate, to neglect other circumstances as essential to his recovery as that on which his hopes are fixed. A residence in a mild climate will no doubt often do much; among other advantages, for example, it will enable the invalid to be much in the open air, during a part of the year when, in his own country, he would be either confined to the house, or exposed to an atmosphere more likely to increase than mitigate his complaints. The exercise enjoyed in a temperate atmosphere, while it gives tone to the nervous system, improves the general health, and relieves the affected organs by promoting and maintaining a more free and equable circulation in the surface and extremities; and the constitution, thus invigorated, may be enabled to overcome a disease

under which it would have sunk in less favourable circumstances." After speaking of the necessity for dietetic management and patient perseverance in the course laid down, the same able authority goes on to say,—"Here, as in every other department of the healing art, we must be guided by experience, and must rest satisfied with the amount of power which the remedy concedes to us. The charlatan may boast a specific for many, or for all diseases: the man of science knows that there exists scarcely a single remedy for any disease which can warrant such a boast; and that it is only by acting on and through the numerous and complicated functions of the living body, in various ways and by various means, and by carefully adapting our treatment to the circumstances of each individual case, that we can remove or check the disorders of the animal system, more especially those which have long existed.

"Let it not then be imagined that change of climate, however powerful as a remedy, can be considered as at all peculiar in its mode of action, or as justifying, on the part of the physician or the patient, the neglect of those precautions which are requisite to ensure the proper action of other remedies. Had I not considered *climate* as a remedial agent of great value, and deserving the attention of medical men, the present work would not have been undertaken; but I feel

that I should be at once compromising the dignity and honour of my profession, and acting in direct opposition to the dictates of experience, if I admitted for a moment that it is one possessing specific powers, or which may be indiscriminately employed without regard to the general fundamental principles of medical science."

In the earliest days of my pupilage I had one maxim deeply impressed upon my mind from the writings of Dr. Gregory, viz .: that we must not regard remedies as direct agents in the cure of disease, but that they are intended by their action upon the animal economy to place the "vis medicatrix naturæ," or natural powers of the system, in the most favourable state to resist and cure disease. The previous writer also says,—"In the first place, I would strongly advise every person who goes abroad for the recovery of his health, whatever may be his disease, or to what climate soever he may go, to consider the change as placing him merely in a more favourable situation for the removal of his disease." Twenty years experience has entirely confirmed this view of the healing art; and in furtherance of these opinions, I proceed to support the proposition with which I commenced, viz.: the healthful combination of circumstances in Aspley, more particularly tending to the cure and prevention of disease.

That there are few diseases which would render it necessary for the patient to leave England, I firmly believe (on that point I shall treat hereafter), or that would be benefited by a completely artificial climate, I very much doubt. The same author, speaking on this head says,—"With the advocates of this measure, the state of the lungs appears to be the only consideration; but without improving the general health, by exercise in the open air, all remedies directed to the local disease will be of little avail: the removal of the constitutional disorder can alone afford the patient a hope of recovery. In tuberculous cachexy, therefore, and even in incipient stages of consumption, particularly in young persons, I consider such a measure generally most unadvisable. But in advanced stages of consumption, when removal to a distant climate is worse than useless, life may be prolonged, in many cases, by keeping the invalid in apartments, the temperature of which is regulated and the air maintained in a pure state. Comparing, then, the benefits to consumptive patients likely to be derived from a mild climate, and confinement to rooms regulated to an agreeable temperature, there can be no question of the decided superiority of the former."

On the other hand, an extremely equable climate is not desirable, inasmuch as the same eminent authority, and also Dr. Combe, who resided at

Madeira, tell us long residence in a very equable climate is not congenial to health, even with all the advantages of exercise in the open air. A moderate range of temperature and atmospheric changes seem necessary to the maintenance of health; and hence it is that many invalids who derive great benefit from a temporary residence in a mild, sheltered situation, do not bear a long sojourn in such an atmosphere without injury. Dr. Combe, during his residence in Madeira, remarked that the invalids were better when the temperature was less steady, and the weather more variable, than when the season was unusually mild and equable. "I have remarked," says Sir J. Clark, "the same effects resulting from long residence in some of the more sheltered spots of our island. Such situations form excellent residences for a time, after which the patient ceases to improve, and rather loses than gains strength. A long residence in a very mild and sheltered position I regard as unsuitable to young persons disposed to tubercular (consumptive) disease."

From this extract it is pretty evident that this very property, equability of climate, may be over-sought; and it is upon this fact I base my whole statement: that the moderate and gentle range of temperature, combined with dryness of air and soil, prevailing in Aspley, demand for it a high position, as one of our best

English residences for certain prevalent and often intractable diseases.

I am aware that, in making this assertion, I am approaching a position in some degree open to question; but I am so well convinced by patient observation, no less than by popular belief, that I feel no hesitation in stating my views on the subject.

It becomes, however, necessary as well as advisable to make another quotation from the same authority, as the foundation upon which my views must ultimately rest. He says: "By keeping up the habit of going daily into the open air, in almost all weather, under the protection of warm clothing, and with the addition of the respirator during the prevalence of cold winds, persons with very delicate lungs may bring themselves to bear this climate, and even strengthen their constitution to an extent not generally believed. If in addition to this daily exposure to the open air, for a longer or shorter period, according to the state of the weather, means were taken to secure a more uniform temperature, and an efficient ventilation in our houses, we should meet with much fewer examples of pulmonary and other diseases, generally attributed to the vicissitudes of our climate, but for which we are more indebted to the alternations of temperature created by ourselves, and the neglect of those precautions and means of defence which are within our power." B 2

A little reflection will shew that, in the above paragraph, we have an outline of the system to be pursued, when our health has become impaired from causes of injurious tendency, and at the same time it furnishes us with a clue to the earlier predisposing causes of bad health even in our infancy.

There can be no doubt but that our incapacity to bear atmospheric change has arisen from the errors inseparable from an artificial existence. By this I mean the complete change now observable from the age when windows were unknown. No one cause, I am persuaded, has tended more than this to physical deterioration. To doubt this would be to deny the effect of change of air, and consequently the utility of change of climate, for it is evident if any effect is obtained, it must be found in some chemical or physical condition of the air in the locality we seek.

To make myself intelligible to the unprofessional reader, I must briefly explain that the constitution of the air we breathe is partly of a chemical, and partly of a physical nature; the chemical one being oxygen, the life-giving principle, and the neutral one nitrogen, which is useful principally as a diffusing agent; a small quantity of carbon is generally found in combination, but not necessarily: this has no beneficial use, and the excess would be highly injurious to life. We also find a considerable quantity of aqueous

vapour, which is, however, liable to great variation in quantity, and upon this will depend, very much, the healthful effect, or otherwise, of the air inspired.

Life cannot be supported without a constant supply of air, and, indeed, it should be so arranged that no part of the air once expired or given out from the lungs should ever enter them again. The air which was inhaled in a state of purity comes out of the lungs highly charged with carbonaceous matter thrown out of the system, and also with a quantity of watery vapour. This exhausted air (the oxygen being removed by absorption into the blood) will, if concentrated, and inspired, unmixed with fresh air, speedily destroy life, being, in truth, poisonous in its effect upon the system, if re-introduced. It will now be readily understood how much depends upon the admission of a constant supply of good fresh air; and this will be more evident when we are informed that the skin of the human body is constantly exhaling the same poisonous gas—carbonic acid—tending vastly to deteriorate the atmosphere in any closed and unventilated room.

When it is an ascertained fact that no less than four thousand gallons of air, or sixty hogsheads, pass in and out of the human lungs in twenty-four hours, we shall soon understand the frightful deterioration of air which must take place in an ordinary bedroom,

carefully curtained, and the chimney opening still more carefully papered up, or barricaded with stuffed bags of hay, etc.

These obstinate efforts to exclude the night air, damp, etc., have a far more powerful effect upon young children. Deteriorated health in the parent gives an hereditary taint to the offspring—" but where this does not exist, the same disorders may be speedily induced in children of the healthiest parents, if they are exposed to the causes known to induce it. Whatever injures the health, may lead to tuberculous cachexy (incipient consumption); residence in a low, damp and chilly situation—long confinement to close, ill-ventilated rooms, whether nurseries, school-rooms, or manufactories—deficient exercise in the open air imperfect clothing—improper food, either deficient in quantity, or of innutritious quality—or the habitual use of over-stimulating diet, by inducing imperfect assimilation — may lead to tuberculous cachexy. The offspring of the healthiest parents, may thus become tuberculous in carly life, if exposed to the exciting causes enumerated. The earlier in life these causes are applied, the more rapidly, in general, will their effects be manifested."* It is an almost admitted fact that bad health, in most instances, is traceable to

^{*} Sir James Clarke.

our own misconduct, or misapplication of the laws of health, which in other words are infringements of the laws of nature, the ordination of the Creator himself. The vicissitudes of our climate are of course a part of those laws, which we are strictly bound to obey. If we err from ignorance, we are as clearly bound to suffer the penalty of that ignorance, inasmuch that knowledge is within our reach. It too often happens, that man thinks but little of his helpless condition, and his dependance upon these laws for the enjoyment of health of body and serenity of mind, until impaired health renders it necessary, from interfering with either his occupations or his pleasures, for him to consider the slender thread upon which so much depends.

Therefore it happens that experience is dearly bought, and the means of preserving health are only valued when we are threatened with the loss of it.

The air of Aspley is generally admitted to be very pure, buoyant, and exhilarating. Its freshness, particularly in elevated situations, has been compared, as I have said, to a sea-breeze.

This is partly due to the undulating character of the surface of the ground and the open free circulation, admitted by the widening extremity of the valley-like portion to the south-east. I must add also, that from the rapid fall in the drainage, all noxious matters

are speedily removed from proximity to the village, and we shall shortly shew that from the small, annual fall of rain, but a limited quantity of moisture generally exists in the air.

Having dwelt at some length upon the necessity of ventilation, as means of insuring a good supply of pure air, the point next in importance is daily exercise, and that in all weather. Walking exercise is the best of all if the strength permits,—if not, riding on horseback will be the best substitute for the invalid. The beautifully varied character of the surface of the ground about Aspley, in which hill and dale are so combined, furnishes every attraction and inducement to pedestrian exercise. The contiguity of Aspley Wood with its pine-sheltered walks, offers in all weather protection to the invalid from either the roughness of the wind in winter, or the heat of the summer sun. These peculiarities, combined with the dry absorbent surface of the soil, furnish the requirements of healthy exercise, at all times of the day, and in every season of the year.

In support of the statement as to the dryness of the atmosphere of Aspley, it will only be necessary to refer to Table III., by which it will be seen that the number of rainy days is comparatively small, even including those which come under the term drizzly, and which we are not assured are included in all Sir James Clark's tables.

TABLE III.

Average number of Days upon which Rain fulls in the Year at Aspley, including those Days in which moisture falls, yet insufficient to be appreciable by measure; being the average of observations made duily through a period of Five Years, and the average annual quantity in Inches and Hundredths.

LOCALITY.	Mean Annual number of Days on which Rain falls.	MEAN ANNUAL FALL OF RAIN. Inches. 100ths.	MEAN ANNUAL TEMPERATURE.		
Pau	135	42. Taylor	56 18		
Aspley	121	18 28	47 50		
Torquay	132	28 20	52 12		
Undercliffe	146	23 48	51 35		
MADEIRA	70	29 23	64 96		
NICE	• •	26 81	59 48		
Hastings	153	32 81	50 40		
London	178	24 80	50 39		
GRASMERE	196	12i			

We find that London has 178 rainy days in the year, Hastings 153, Undercliffe 146, Exeter 162, Aspley 121; and of foreign climates, Pau has 135, Madeira only 70. This latter is very remarkable; and the more so, when we find that the aggregate quantity of rain exceeds that of Aspley by no less than eleven inches. After this deduction, I think it must follow that the atmosphere there, during the rainy season, must be very damp, and injurious to health, particularly in relaxed states of the system. This

will be still more obvious when we find from the authorities I have hereafter quoted, that the ground in Madeira is generally damp for nine months in the year.

Further evidence of the dryness of the air of Aspley will be found in the small annual fall of rain. In this particular my observations extend over a period of about four years, during which time, by very careful admeasurement, it only amounts to $18\frac{1}{4}$ inches; a fraction less than Paris $(18\frac{1}{2})$; a little less than Toulon $(19\frac{1}{2})$; and three inches only more than at Marseilles. And, so far as I can learn, the annual fall of rain at Aspley is less than in any known English locality. This, with the entire absence of any river, or considerable stream, accounts for, and strengthens the evidence of the dryness of its atmosphere. We need only glance at the enormous annual fall of rain (121 inches) at Grasmere, in the lake district, to understand the effect of western gales upon the localities exposed to them. To this may be added the attraction formed by the hilly character of the locality around Grasmere.

A similar amount of rain and moist winds at Jersey, leads to a very damp and misty, though mildatmosphere, and to a general prevalence of rheumatism as the certain consequence.

We may again beneficially quote Sir J. Clark upon this subject, as his views are so perfectly in accordance with my own experience of different localities, and their peculiar influence in producing or obviating disease. He says, "It may be stated as a general rule, that houses in confined, shaded situations, with damp courts or gardens, or standing water close to them, are unhealthy in every climate and season, but especially in a country subject to intermittent fevers, (ague, etc.), and during summer and autumn. The exemption of the central parts of a large town from these fevers is explained by the dryness of the atmosphere, and by the comparative equality of temperature which prevails there.

"Humid and confined situations, subject to great alternation of temperature between day and night, are the most dangerous. Dryness, a free circulation of air, and a full exposure to the sun, are the material conditions to be attended to in choosing a residence. Of all the physical qualities of air, humidity is the most injurious to human life; and, therefore, in selecting a residence, or situation for building, in all climates, particular regard should be had to the circumstances which are calculated to obviate humidity in the soil and atmosphere."

To illustrate more forcibly the influence of moderate elevation upon temperature, from the consequent diminution of moisture, I shall avail myself of a quotation from that instructive and amusing book, White's Natural History of Selborne. I do so more particularly, as almost identical effects were produced at Apsley in the severe frost of last year (1855). The evergreens suffered severely in the valley, but scarcely at all upon the *elevated* parts of the village. The passage I refer to occurs in Letter cvii.

"This strange severity of the weather made me very desirous to know what degree of cold there might be in such an exalted and near situation as Newton. We had, therefore, on the morning of the 10th, written to Mr. ---, and entreated him to hang out his thermometer, made by Adams, and pay some attention to it morning and evening, expecting wonderful phenomena in so elevated a region, at two hundred feet above the level of my house. But, behold! on the 10th, at eleven at night, it was down only to 17°; and the next morning at 22°, when mine was 10°! We were so disturbed at this unexpected reverse of *comparative local cold*, that we sent one of my glasses up, thinking that of Mr. —— must, somehow, be wrongly constructed; but when the instruments came to be confronted, they went exactly together, so that, for one night at least, the eold at Newton was 18 degrees less than at Selborne, and through the whole frost 10 or 12 degrees: and, indeed, when we came to observe consequences, we could readily credit this, for all my lauristines, bays, ilexes,

arbutuses, cypresses, and even Portugal laurels, and which occasions more regret, my fine sloping laurel hedge, were scorched up, while at Newton, the same trees have not lost a leaf."

I could adduce further evidence, if required, illustrative of the above facts; but it is generally admitted by those who have paid attention to the subject, that moderately elevated situations are the driest, and *relatively the warmest* in most, if not all localities, particularly in winter.

It is an equally well established fact, that the free circulation of air upon elevated situations, renders them relatively cooler in summer. On the other hand, the want of such free circulation, in more sheltered places, generally makes them close, hot and oppressive.

To return to our subject,—the healthful tendencies of Aspley, in consumptive and nervous affections more particularly. I shall feel it necessary to quote the experience of native authorities, who have resided in the localities, in order to show the particular influence of climate upon the like affections. I think it better to do so rather than such data should appear dependent upon any uncertified views of my own.

The daily range of temperature in Aspley, approximates to that of Nice, a place of some celebrity in the treatment of consumption. Various other places in Provence, Marseilles, Heyres, Montpelier, have a local

reputation, and indeed possess some superiority in regard to atmospheric dryness and equability of temperature (at Marseilles and Toulon, the annual fall of rain is only about 19 inches, and less by six inches than London.)

These localities have been occasionally recommended as affording good winter residences for invalids; but the experience of later years has gone entirely in opposition to such advice; and the general and leading characteristics of the climate according to the best authorities, show that there never was the least reason to recommend them.

It may be briefly summed up thus. "The climate of the south-east of France is dry, hot, and irritating. Its temperature throughout the year and the day is distributed with great irregularity, and the range is much wider than in our own climate, being as three to one for the year, and as two to one for the day. The temperature no doubt remains more steady from day to day than our own, but its changes, though less frequent, are more sudden and extensive. Sometimes the winter is very rigorous. The orange trees are occasionally killed by the cold in the most sheltered parts of Provence. In 1709, the ports of Marseilles and Toulon were frozen over; the whole of this tract of country is subject also to keen northerly winds, especially the mistral, which prevails

during the winter and spring, and is most injurious to pulmonary diseases. Although decidedly improper for consumptive patients, and those labouring under irritation of the mucous membrane of the lungs and stomach, and other organs, this climate may prove useful to invalids of a different class; on persons of a torpid or relaxed habit of body, and a gloomy desponding cast of mind, with whom a moist relaxing atmosphere disagrees, the keen bracing dry air of Provence and its brilliant skies will often produce a beneficial effect."

Having thus glanced over the peculiarities of these climates, closely approximating both to Nice and Aspley, I proceed to describe Nice more in detail. Its mean annual temperature is fifty-nine; being eleven warmer than London; twelve warmer than Aspley; seven warmer than Penzance; three warmer than the Undercliffe; one colder than Rome; five colder than Madeira.

The temperature is more equally distributed throughout the year at Nice, than at any other place in the south of Europe, except Rome and Cadiz.

The climate of Nice during the winter has many advantages; the maritime Alps form a lofty barrier, which shelter it in some degree from the northerly winds during winter, and the cool sea breeze, which prevails every day with a regularity almost equal to

that of a tropical climate, moderates the summer heat.

Notwithstanding the extent, however, to which Nice and its environs are encircled by mountains, (and it is so in a great measure from W.S.W. to E.S.E.) it is by no means exempt from cold winds during the winter, and still less so during the spring. The easterly winds are the most prevalent during the latter season. They range from east to north-east, frequently blow with considerable force, and are often accompanied with a hazy state of atmosphere. From the north-west, or mistral, which is the scourge of Provence, Nice is pretty well sheltered. But towards the end of the mistral, when it takes a more westerly direction, the keen dry quality of the air is very sensibly felt, whilst it prevails. The winter is a season of flowers, the dryness of the air rendering the degree of cold less injurious to the inhabitants, than it would be in a more humid atmosphere. Spring is the most unfavourable season; the sharp chilling easterly winds are the greatest enemy with which the invalid has to contend, and the prevalence of these, during the months of March and April, forms the greatest objecttion to this climate, especially in pulmonary diseases.

These sharp easterly winds, however, are not peculiar to Nice, but prevail more or less over the whole south of Europe. They are equally bad at Naples,

somewhat softened at Pisa, and still more so perhaps at Rome.

In consumption, the disease with which the climate of Nice has been chiefly associated in the minds of medical men in this country, *little benefit* is to be expected from the climate.

Dr. Skirving, who for many years practised in Nice with great reputation, states that in complicated consumptive cases, the climate of Nice is of doubtful efficacy; on the other hand, consumption unattended with gastric complication, more particularly in torpid constitutions, was benefited by residence there.

Indeed, by carefully considering both Sir James Clark's and Dr. Skirving's views, we can only arrive at the conclusion, that the early and simple states of tuberculous cachexy, or consumptive tendency, are the only cases likely to derive much benefit from residence at Nice.

Dr. Skirving, whose opinions were founded upon eight years experience, appears to think that in confirmed consumption, the climate of Nice is injurious, and this opinion is still further supported by Professor Foderè of Strasbourg, who resided six years at Nice. "Indeed," concludes Sir J. Clarke, "sending patients labouring under confirmed consumption to Nice, will, in a great majority of cases, prove more injurious than beneficial."

In chronic bronchitis, which often simulates phthisis,

very salutary effects are produced by a residence at this place (Nice).

The average daily range of temperature during the year, amounts there to $8\frac{1}{3}$ deg., while at Aspley it is eight only.

The closest approximation to Aspley, in regard to equability of temperature, is Pau, in the south of France. "There the temperature," says Dr. Playfair, the resident physician, "is 2° warmer during the winter than the warmest parts of England; and about 5° colder than Rome. The spring is $4\frac{1}{2}$ warmer than England, and $2\frac{1}{2}$ colder than Rome." Dr. Playfair also found that gastric (or stomach) affections were much benefited by residence at Pau; "but when accompanied by a relaxed state of the system, with copious expectoration, the climate does not in general prove beneficial." Again, when we are informed by Dr. Taylor, that the annual fall of rain amounts to forty-two inches, and that the temperature is liable to very sudden changes, we shall soon be of opinion that even the climate of Pau must be estimated with considerable qualification.

We are informed by the same author, that, "although the character of the climate of Pau corresponds with that of the south-west of France generally, it possesses some peculiarities which it owes to its topographical situation. Notwithstanding its distance from the coast, it is very much under the

influence of the Atlantic Ocean. All the changes of temperature to which this gives rise, extend as far as Pau, though in some degree modified by distance, and still more by the position of the place with respect to the neighbouring mountains; calmness of the atmosphere, for example, is a striking characteristic of the climate, high winds being of rare occurrence and short duration. When we consider that westerly, or Atlantic, winds are the most prevalent, we shall be at no loss to account for the great fall of rain, fortytwo inches [this exceeds by nearly twenty-four inches, and is more than double that of Aspley, $18\frac{1}{9}$ inches]; and were it not that the soil of Pau is of a very porous character, this fall of rain would render the place unhealthy; but it is in some measure counterbalanced by the rapidity with which sunshine succeeds rain. While we give this fact its due weight, we must not forget that in October snow generally falls on the central chain of the Pyrenees—and at Pau this fall of snow is marked by a sudden change of temperature, the weather becoming rainy and chilly."

I am far from wishing to show that Pau has no advantages for the invalid; but still I think the peculiar benefits should be viewed in connection with its disadvantages, in order to judge impartially of its entire value as the residence of a particular class of patients. We find then that snow showers are slight and soon disappear; and that though December and

January are cold and dry, the sun is often bright and warm during these months, enabling the invalid to take exercise out of doors. February is milder, but towards the end of the month spring rains fall, and the weather, as in most places, is chilly and disagreeable. March is mild and variable, though with the advantage of the absence of cutting winds. In spring, westerly winds, which are soft and mild, accompanied with rain, alternate with dry easterly winds, also of a mild character. Hence it is that the vernal exacerbation of inflammatory affections of the stomach and lungs (so commonly observed in other climates) is little felt by invalids at Pau. One great disadvantage, however, in my opinion is, that during July, August, and September, the thermometer often rises as high as 94° in the shade, with a powerful sun, preventing exercise from eight in the morning till seven in the evening!

"The island of Madeira," says Dr. Heineken, "possesses advantages over our best continental residences. It is warmer in winter, cooler during summer; there is less difference between day and night, and also between one season and another, and in successive days; it is almost exempt from keen cold winds, and enjoys a general steadiness of weather to which continental climates are strangers. During summer the almost constant prevalence of northeasterly winds, especially on the north, and the

regular sea and land breezes on the south side of the island, maintain the atmosphere in a temperate state. The sirocco, which occurs two or three times at most during the season, and then continues only for a few days (seldom more than three), sometimes raises the thermometer in the shade to 90°; with this exception, the summer temperature is remarkably uniform, the thermometer rarely rising above 80°. Such, indeed, is the mildness of the summer at Madeira, that a physician, himself an invalid, who resided there for some time on account of his health, doubted whether this season was not more favourable to pulmonary invalids than the winter.

"Autumn is the rainy season, and towards the end of September, or the beginning of October, the rains commence, accompanied with westerly, or southwesterly winds. In November the weather clears up, and generally continues fine and mild until the end of December. About this time snow usually falls on the mountain at Funchal, attended by north-west winds, and the weather continues more or less damp through January and February; but fog is never seen, and during this, the winter, the thermometer at sunrise is rarely ever found below 50°. The sensation of cold, however, is then greater than with an equal temperature in England. And this is the case also in Italy. In clothing, invalids must not trust too exclusively to the thermometer; their sensations are

a better guide in this respect. The spring at Madeira, as at every other place, is the most trying season for the invalid, and will require even there a corresponding degree of caution on his part. In March, winds are frequent; and April and May showery.

"The mild character of the climate appears to be accompanied with a corresponding degree of health in the inhabitants of Madeira. The peasantry, though hard worked and badly fed, are a fine, healthy, and robust race. This island is almost exempt from the diseases peculiar to warm climates, and little subject to many of those which are common to more northerly countries. Intermittent and remittent fevers are rare. Croup seems unknown; calculus disorders are very unfrequent. The more prevalent diseases are cutaneous affections. Apoplexy is also a very frequent disease. Bowel complaints are very common, and often fatal, and dysentery is said to be frequently epidemic; indeed, this disease may be said to be almost endemic among the labouring classes: nor need this excite our surprise when we consider their mode of living. Tubercular diseases are also common, but a cursory view of the habits of the poor (who as we have stated are badly fed and over-worked) will at once show that it is not so much the climate as the damp, low, miserable huts, and straw beds raised only a foot from the ground, which is generally damp during nine months of the year. It is not, then, surprising that many of the children

die of scrofulous disease, and are, indeed, miserable objects, with tumid abdomen and emaciated, ricketty extremities."

These observations have been carefully made by Dr. Renton and the late Dr. Heineken, who resided there the last nine years of his life, so that the utmost reliance may be placed upon them. The result of their experience goes to show the necessity of sending consumptive patients there only in the very early stages of the disease, and thus adopting change of climate as a means of prevention rather than as a cure. Dr. Renton, in a sensible paper published in the Edinburgh Medical and Surgical Journal, makes some judicious remarks on the "inutility, not to say cruelty," of sending patients in the more advanced stages of consumption to Madeira.

The Journal of Public Health for the quarter ending Sept. 1855, says of Madeira, "the value of change of climate for consumptive and other invalids involves many questions not yet settled; certainly the opinion is fast gaining ground amongst the medical profession, that change of climate, as a remedial measure, has been seriously over estimated; and that persons too often have been sent away to die far from their homes and friends."

The latest experience goes to prove that the climate of Madeira, generally, must be looked upon with considerable qualification and distrust, as during

the present year there has been a terrible outbreak of cholera, which has, in a comparatively short time, carried off two thousand persons out of a population of about fifteen thousand. This is not surprising when we remember that Dr. Renton stated, as much as ten or twelve years back, that bowel complaints very generally prevailed among the lower orders, and that dysentery was often endemic there.

I have before alluded to the climate of the Underdercliffe (or south side of the Isle of Wight), and I shall conclude my extracts with some observations upon its peculiar properties and influence upon disease, though its principal utility consists in its being a good winter residence for consumptive and cachectic affections.

"The soil of the Undercliffe, consisting of the detritus of the sandstone and chalk from the incumbent cliff, is naturally dry, and speedily regains its dryness after rain. The nature of the rock, and the general shelving of the surface, likewise contribute to render Undercliffe a dry situation.

The climate is remarkably equable, as well as mild and dry, and there are not many days during the winter on which the invalid cannot take exercise in the open air. The mildness and dryness of the climate, during the winter months, may be in some degree estimated by the circumstance of myrtles, geraniums, sweet scented verbena, and various tender

and greenhouse plants, usually withstanding the winter in open flower-borders. The honey-bee likewise continues working in ordinary seasons, until after Christmas. The absorption of heat by the almost perpendicular cliffs which back the Undercliffe, exposed as they are to the rays of the sun during the whole day, must be considerable even in winter; and the radiation of this heat during the night, no doubt tends to equalize the temperature.

To the invalid who has cultivated natural history, this sheltered district and neighbourhood possesses an additional advantage. It is rich in varied and interesting plants; indeed, the specimens of natural history with which it abounds, offer abundant inducement to exercise and mental occupation to the cultivators of this delightful science.

When we consider the numerous local advantages of the Undercliffe, already detailed, and the result of the meteorological observations appended, and also take into account the still more conclusive evidence furnished by the condition of the exotic plants which grow there, we must acknowledge it to be one of our warmest winter climates, and most eligible residence for a large class of delicate invalids. With respect to the most decisive evidence of all, in a medical point of view, namely, the effects of the climate on pulmonary disease, my experience is favourable.

With a temperature nearly the same, the climate

of Torquay is soft, but rather humid and relaxing; while that of Undercliffe is dry, somewhat sharp and bracing. The winter temperature at these two places differs very little. Although at Torquay the temperature rises somewhat higher, it likewise sinks lower than at Undercliffe, giving the latter the advantage in point of equability of temperature.

These qualities peculiar to the two places respectively, render them suitable to different diseases, and in different complications of the same disease. For pulmonary invalids, the best season at Undercliffe is from November to May.

From the middle of August to the middle of October, the Undercliffe is not a desirable residence. The air is then relaxing, and has a depressing effect on the animal economy, and invalids who have remained there during the summer, should leave the place at this time."

The same may be said of Hastings as the Isle of Wight, from which it differs but little, and perhaps less from Torquay; its atmosphere is rather moist and relaxing, it is however protected very much from northerly and north-easterly winds, by the perpendicular cliff, which rises immediately behind the narrow slip of beach, which from its limited room for exercise is a disadvantage to the invalid.

Its superiority consists in the shelter from the north and north-westerly winds of December and

January, and this to persons labouring under irritable states of the lining membrane of the lungs, is certainly a consideration, but where anything exists approaching to nervous headache connected with indigestion, or a tendency to epilepsy or apoplexy, residence here has not been beneficial. The higher parts of Hastings would be the most suitable in such cases, and where protection from cold winds is not an object.

In reviewing the various climates approximating to that of Aspley, I am induced to add a few words in reference to Jersey, the temperature of both places being very much alike.

Dr. Hooper states, that "the actual number of days of rain, falls short of that of the south-west coasts of England, but as the showers are generally copious and of long duration, the quantity of rain, if properly estimated, would be found greater at Jersey; this, added to the thickly wooded state of the Island, and insufficient drainage, combine to render the atmosphere extremely humid.

"Jersey enjoys an early spring, and a protracted autumn; vegetation being forward in March, and the landscape far from naked as late as the end of December. The dreary aspect of winter is, therefore, short lived." The island is particularly subject to fogs, from which and the constant humidity we shall not be surprised to find that chronic rheumatism is a prevalent disease, particularly in rural districts, and is universal

after the age of thirty; dyspepsia, disease of the liver, and dropsy, are also prevalent. Scrofula common; intermittent fever rare; remittent fever common; consumption is said not to be frequent, but no reliable information on this point is at present on record.

A little consideration will show, that mere temperature is not the only consideration in regard to health, and plainly evinces that in Aspley some other qualities of air, soil, etc., essential to health, are in operation, as rheumatism particularly is very rare amongst us.

In my concluding observations, I have great satisfaction in referring to the Report of the Registrar-General's Quarterly Return, "which," says the *Times* for July 31st, 1856—

"For this quarter is a most gratifying document. After all we have heard within the last two years of want, disease, and mortality, it is an agreeable change to turn to the narrative of national health and increase. Seldom were facts and figures more pleasant reading. The excess of births over deaths amounted in this part of the United Kingdom to 72,894. The proportion of deaths was not quite 21 in 1,000, the average annual rate of the season being nearly 23 in 1,000. The mortality of the whole of the last half-year has been much below the average rate. Better water and improved sanitary arrangements have much diminished the unhealthiness of the poorer districts of the metropolis and the great towns. On the whole, it is proved, in the opinion of the most competent authorities, that 'the elimate of England is eminently salubrious.' 'It is well established', says the Registrar-General, 'that England is the healthiest country in Europe. France stands next to England in salubrity. In the continental eities the annual rate of mortality is seldom less than 30 in 1,000, and the rate frequently rises to 40 in 1,000. In London the annual rate of mortality is 25 in 1,000.

"Now, on the strength of the Registrar-General's report, we may be allowed to put in a plea in favour of home. We do not say there is no place like it, but still the conduct of our countrymen of late years has been as if their own land was a prison from which a natural instinct prompts a flight at the first moment of liberty. The usual argument is that health demands a change of air, and therefore a foreign clime must be visited. Now, it is proved that England, 'crowned with hills of moderate elevation sloping towards the east and south,' 'bathed by the showers of the Atlantic,'though we will not lay much stress on this peculiar attraction,— 'cultivated more extensively than other lands, and producing those unequalled breeds of animals which flourish only in healthy places,' enjoys a salubrity beyond any of those countries to which the flight of English pleasure-seekers is directed. Why not, then, recur to the habits of the old times, and travel about England, of which some of our countrymen know much less than of the Rhine, the Danube, and the Tagus?

"The tourist's life abroad is a kind of primitive existence; he dresses as he likes, eats when he is hungry, drinks when he is thirsty—which, as a general rule, is somewhat often—and in this very contrast to his ordinary life consists much of the relaxation which his trip affords. But still it cannot be doubted that many go abroad who carc little for what they will see on the continent. Families who would be much more comfortable and happy in their own island think it necessary to follow the general example, and the mania for annual travelling is communicated from one to another until it has become almost part of the nature of the people."

From the above extract, if evidence were wanting, it is abundantly proved that England is much healthier than any part of the continent of Europe. Continental cities exceed London generally in mortality by five per thousand, and in many instances by more than fifteen per thousand. England generally (the

last half year) has only reached twenty-one per thousand, the ordinary annual average being twenty-three. This effectually disposes of the grounds or necessity of our seeking continental residence on any plea of healthful tendency. In some English country localities the mortality only reaches fourteen or fifteen per thousand, and in addition they have powerful aids to general good health-dry soil, pure air, good water, and equability of temperature, etc.—all of them serviceable to persons labouring under diseases in which debility is a prominent symptom—as consumption, chronic bronchitis, asthma, dyspepsia, liver complaints, epilepsy, nervous and neuralgic affections, spinal disease, etc. Thus the necessity at once falls to the ground for leaving our native shores on the plea of ill-health; to say nothing of the uncertainty of success or benefit,—of the misery consequent upon a wrong selection, particularly of a distant foreign climate—nor of the pain of separation from friends and home comforts, so essentially necessary to recovery, which are the certain lot of all who seek a distant foreign locality. It is to the invalid I particularly address myself; one reduced perhaps by pain and sleepless nights, or harassed by some obstinate chronic malady; and to such I would say, think again before you contemplate encountering the inseparable discomforts of a protracted journey, ending possibly in disappointment.

I need only refer the reader to the tables in this work, to convince him that whatever be the advantages sought by the invalid in a foreign residence, whether dryness of soil, purity of air, or equability of temperature, they can all be found, at least in an equal degree and with more favourable combinations, much nearer home.

It must be evident to any reflecting and unprejudiced mind, that these various data relating to the village of Aspley are very remarkable and of no common order, and such as are rarely found associated in any strictly inland district. Many of the facts which I have recorded do not rest upon my own experiments alone, but are supported by those of a gentleman remarkable for accurate and patient observation, particularly in regard to one of the leading characteristics, the small annual fall of rain, as, upon comparing notes, we found the quantities approximate within a few hundredths of an inch.

I shall for the present take my leave of the reader by calling his attention to the principal beauty of the locality, Aspley Wood. Here may be said, as of the Undercliffe, the naturalist may ramble and pursue his studies with the greatest success; as it abounds in many rare varieties of both flowers and insects. Its many charms are, however, eloquently described by the late talented poet, J. H. Wiffen, in his Aonian Hours; but having already extended my observations

beyond my proposed limits, I must content myself with a very brief quotation from his interesting description of this sylvan spot.

LXVII.

But O! the thousand charms of this wood-cover,

The plain, the steep, the musical, the still,

The sad, the cheerful! here may nature's lover

For ever taste, yet never have his fill:

The tangled valley now becomes a hill,

The hill a glade, the glade a vista riven,

From depth of groves, and then we view at will

Far towns and plains, and where earth blends with heaven,

Blue ocean seems to roll, and mimic waves are driven.

LXVIII.

And thus we wander, e'en as though a spell
Clung to our footsteps, and transformed the view;
Making the bosky hill a pansied dell,
And tinging all things with enchantment's hue.
Small need have we of Ariadne's clue,
To guide us through our labyrinth to day;
Here, where each step creates a landscape new,
Here where to linger is a sweet delay,
O, who would not be lost within a maze so gay!

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